

REMARKS/ARGUMENTS

The Applicants have carefully considered this application in connection with the Examiner's Action and respectfully request reconsideration of this application in view of the following remarks.

The Applicants originally submitted Claims 1-25 in the application. In a previous response to a restriction requirement, the Applicants withdrew Claims 17-25. In previous responses to Examiner's actions, the Applicants canceled Claims 7, 11, and 17-25 and added new Claims 26-29, as well as subsequently canceled Claims 1-29 without prejudice or disclaimer and added new Claims 30-47. Thereafter, the Applicants canceled Claims 30-47 without prejudice or disclaimer, and added new claims 48-54. Presently, the Applicants have not amended, added or canceled any claims. Accordingly, Claims 48-54 are currently pending in the application.

I. Rejection of Claims 48, 51-53 and 55 under 35 U.S.C. §102

The Examiner has rejected Claims 48, 51-53 and 55 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,798,073 to Lin *et al.* ("Lin"). Independent Claim 48 currently includes the elements of (1) a metallization interconnect system overlying a semiconductor substrate, the metallization interconnect system including at least a first and a second interconnect feature located within a dielectric layer; (2) a power bus located over the metallization interconnect system, the power bus comprising an alloy of aluminum and copper, and further wherein the power bus includes a first contact pad region configured for connection external to the integrated circuit device

that is in contact with the first interconnect feature, and a second region in contact with the second interconnect feature; and (3) a passivation layer overlying at least a portion of the power bus to expose at least a portion of the first contact pad region and protect the second region. Lin fails to disclose many of these elements.

The Examiner asserts that Lin discloses a metallization interconnect system overlying a substrate **410**, wherein the metallization interconnect system includes a first interconnect feature **422** and second interconnect feature **442** located within a dielectric layer **420** and **440**. Accordingly, features **422** and **442** are first and second interconnect features, and the dielectric layer is **420** and **440** combined. The Examiner then asserts that Lin discloses a power bus **442b** located over the metallization interconnect system, the power bus **442b** comprising an alloy of copper. Thus, according to the Examiner feature **442b** is the power bus. The Examiner then asserts that a passivation layer **440** overlies at least a portion of the power bus **442b**.

The Applicants respectfully assert that the Examiner's interpretation of Lin is incorrect. First, feature **440** is either the dielectric layer, as initially indicated by the Examiner on page 2 of his most recent Examiner's action, or is a passivation layer, as subsequently indicated by the Examiner on page 3 of his most recent Examiner's action. However, feature **440** of Lin cannot be both. Independent Claim 48 includes one element of a dielectric layer, as well as includes another element of a passivation layer. According to the pending claims, these are different layers, thus forming two different features. Therefore, the Examiner cannot use the same feature (e.g., layer **440** of Lin) to anticipate two different features (e.g., the dielectric layer and the passivation layer) of the pending claims.

Second, the Examiner asserts that the metallization interconnect system includes at least a first interconnect feature 422 and a second interconnect feature 442. Thus, according to the Examiner those two features (e.g., features 422 and 442) collectively form at least a portion of the metallization interconnect system. The Examiner also asserts that feature 442b is the power bus. The pending claims, however, require that the power bus be located over the metallization interconnect system. In looking at Lin, however, the power bus feature 442b is not located over the metallization interconnect system comprising the first interconnect feature 422 and the second interconnect feature 442. Actually, the power bus feature 442b is in the same plane as the upper most portion of the metallization interconnect system (e.g., the second interconnect feature 442) of Lin, as is indicated below. Thus, in direct contrast to what the Examiner asserts, Lin does not disclose a power bus located over the metallization interconnect system, as is presently claimed.

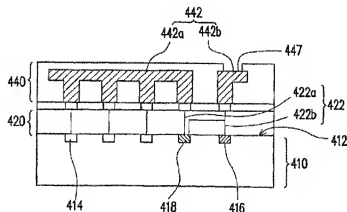


FIG. 4

Third, the Examiner asserts that col. 7, lines 61-63 of Lin for the teaches that the power bus **442b** comprises an alloy of copper. The Applicants respectfully disagree. Col. 7, lines 57 thru col. 8 line 1 reads as follows:

"The second dielectric body **244** is made of, for example, an organic compound, such as polyimide (PI), benzocyclobutene (BCB), porous dielectric material, parylene, elastomer, or other macromolecule polymers. The material of the second interconnection scheme **242** includes, for example, copper, aluminum, gold, nickel, titanium-tungsten, titanium or chromium. Because mobile ions and moisture of the second built-up layer **240** can be prevented by the passivation layer **230** from penetrating into the first built-up layer **220** or the electric devices **214**, it is practicable that an organic compound and various metals are formed over the passivation layer **230**."

Nowhere in these sentences is there a teaching that the second interconnect scheme **242** (what the Examiner likens to the power bus) comprises an alloy of copper. There is a teaching that it could comprise copper, or aluminum, or gold, or nickel, etc., but such teachings are not that it could comprise an alloy of copper, as is claimed. Accordingly, Lin fails to disclose this element also.

For the foregoing reasons, among others, Lin fails to disclose each and every element of the claimed invention. As such, Lin is not an anticipating reference. Because Claims 49-54 are dependent upon Claim 48, Lin also cannot be an anticipating reference for Claims 49-54.

II. Rejection of Claims 49-50 under 35 U.S.C. §103

The Examiner has rejected Claims 49-50 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,798,073 to Lin. As indicated above, independent Claim 48 currently includes

the elements of (1) a metallization interconnect system overlying a semiconductor substrate, the metallization interconnect system including at least a first and a second interconnect feature located within a dielectric layer; (2) a power bus located over the metallization interconnect system, the power bus comprising an alloy of aluminum and copper, and further wherein the power bus includes a first contact pad region configured for connection external to the integrated circuit device that is in contact with the first interconnect feature, and a second region in contact with the second interconnect feature; and (3) a passivation layer overlying at least a portion of the power bus to expose at least a portion of the first contact pad region and protect the second region. As established above, Lin fails to disclose many of these elements. Lin further fails to suggest such elements.

Thus, Lin fails to teach or suggest the invention recited in independent Claim 48 and its dependent claims, when considered as a whole. Therefore, Lin fails to establish a prima facie case of obviousness with respect to these claims. Claims 49-50 are therefore not obvious in view of Lin.

In view of the foregoing remarks, the cited reference does not support the Examiner's rejection of Claims 49-50 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection of Claims 49-50.

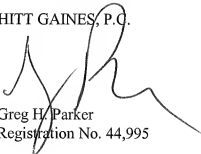
III. Conclusion

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 48-54.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, P.C.

A handwritten signature in black ink, appearing to read 'Greg H. Parker', is written over the printed name and registration number.

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